

# BS 5839-1 – What has Changed?

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# When?

DPC Closed  
01/02/2017

BSI Panel  
resolve  
comments

Publication  
June 2017

# Overview

- There are 25 changes to 14 clauses:
- Delete Informative Annex F – VAD characteristics (CoP001)
- New Informative Annex E – Selection of detectors
- New Normative references:
  - BS 8591, CoP Remote ARC
  - EN 54-21, Alarm transmission and fault warning routing equipment
  - EN 54-29, Smoke and heat multi-sensor
  - EN 54-30, CO and heat multi-sensor

# New Definitions

- 3.14 Critical signal path
  - Includes signal paths to alarm transmission equipment
- 3.62 Unwanted fire alarm signal
  - False alarm from cie passed to F&RS

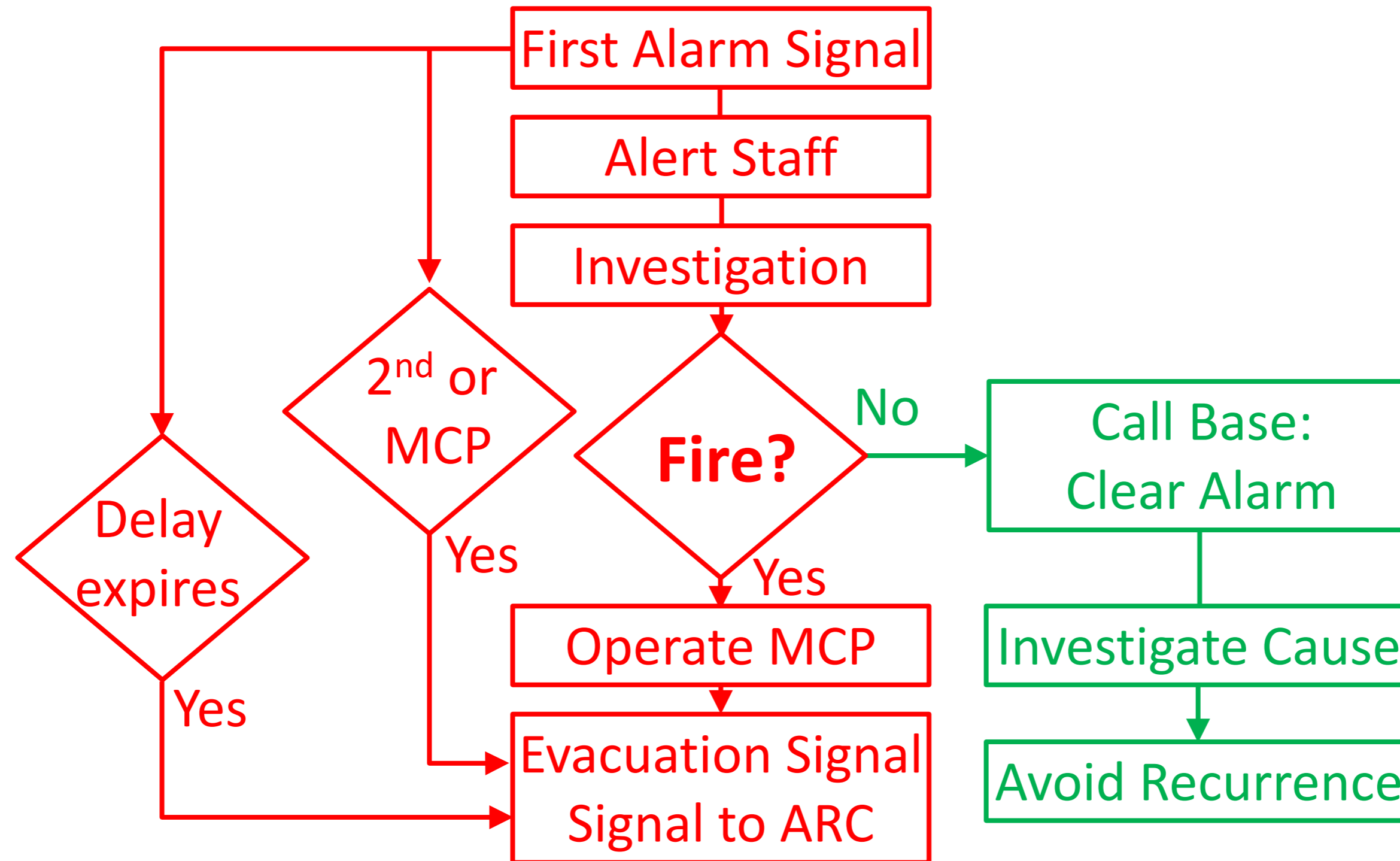
# Multi-sensors in escape routes

- Multi-sensors that have fire sensitivity of BS EN 54-7 are now acknowledged as suitable for fire escape routes
- Configuration must include smoke detector mode

# Signals to alarm routing centre

- Equipment certified to EN 54-21
- *Commentary on transmission path characteristics*
- Acknowledgement that signals may be routed via security equipment that does not comply with BS 5839-1  
Variation not needed, but battery capacity should comply
- Consider staff alarms to avoid UWFS  
(Not applicable to residential care homes)

# Staff Alarms

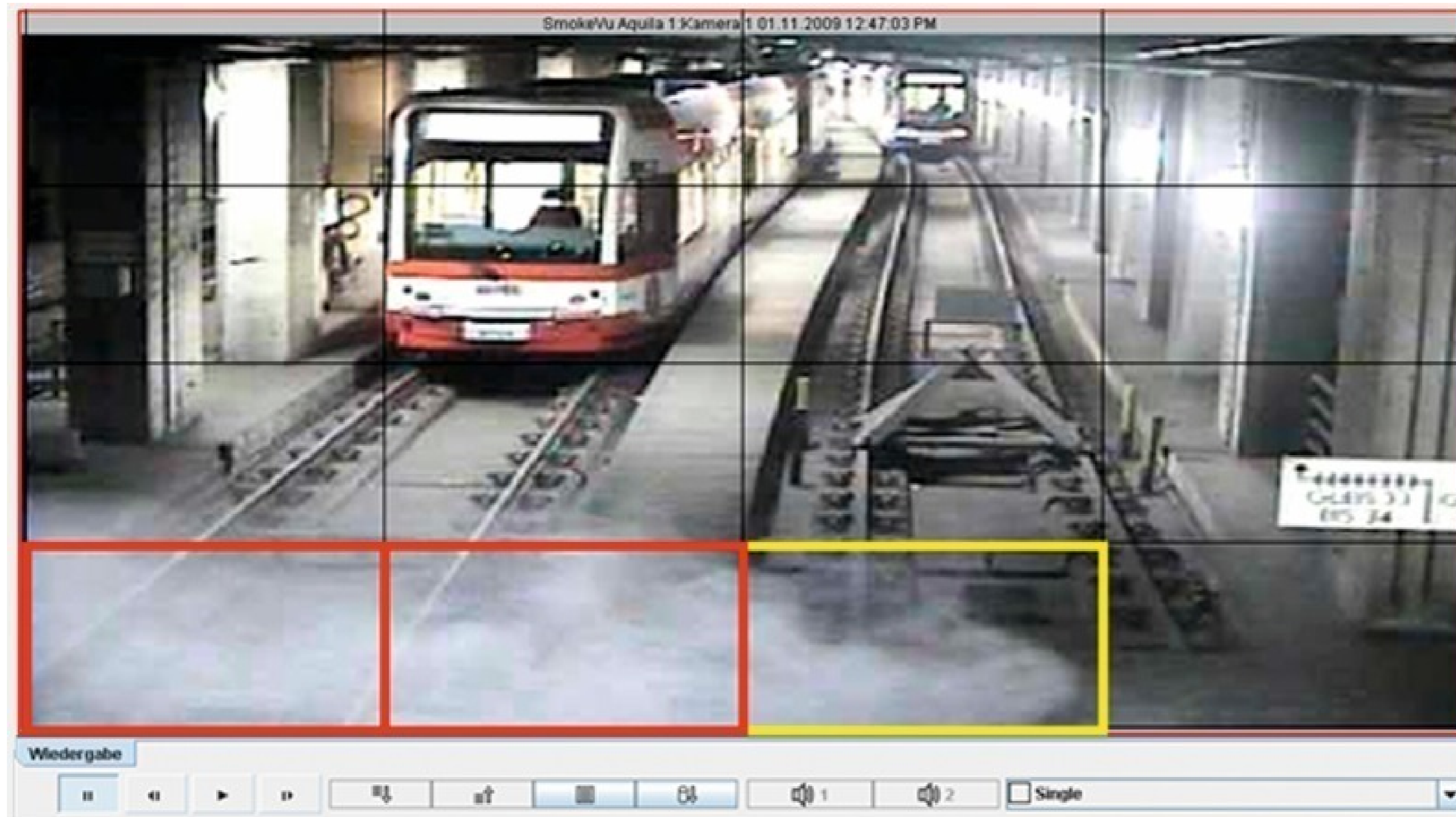


# Use MCP Covers

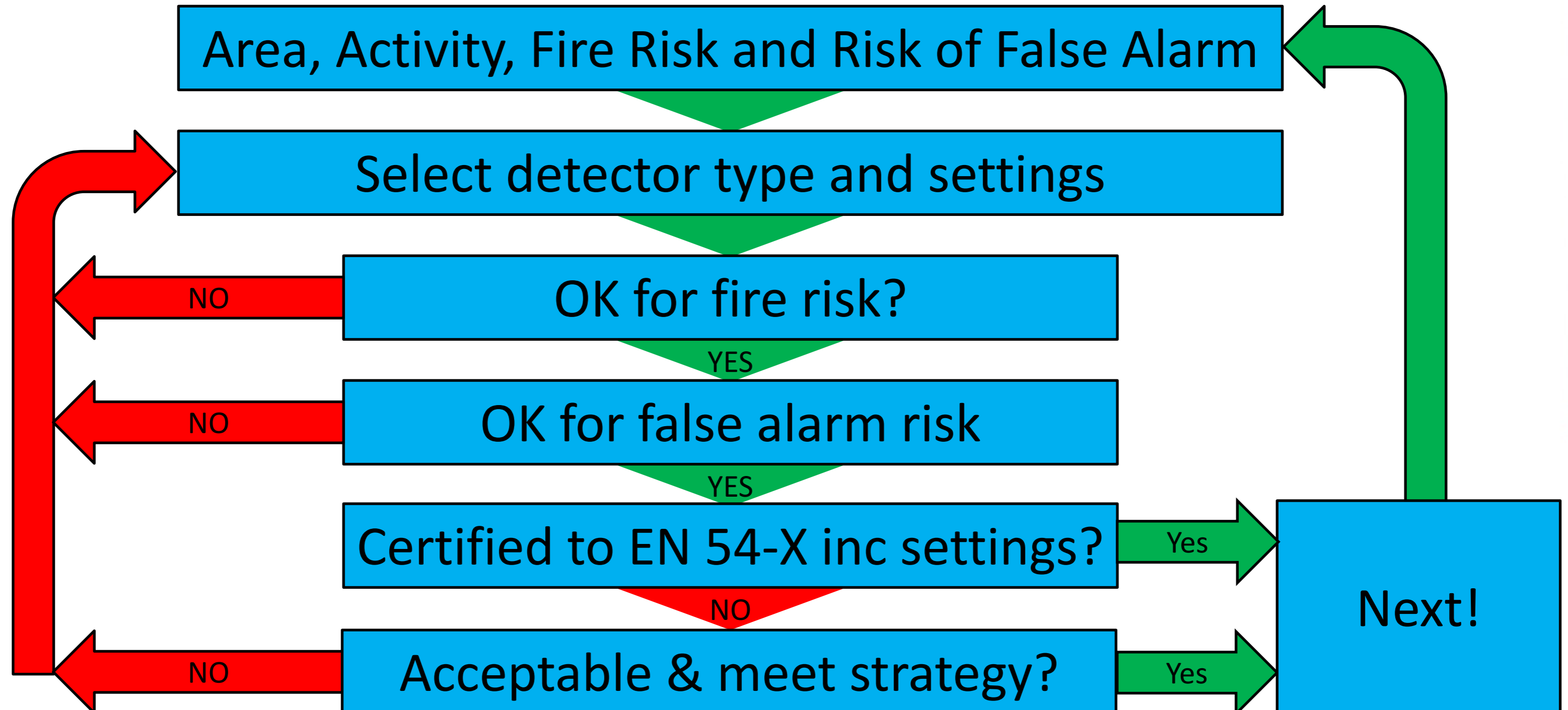




# Video Fire Detection



# Detector selection and application verification



# Table E.2 Example Fire Risks

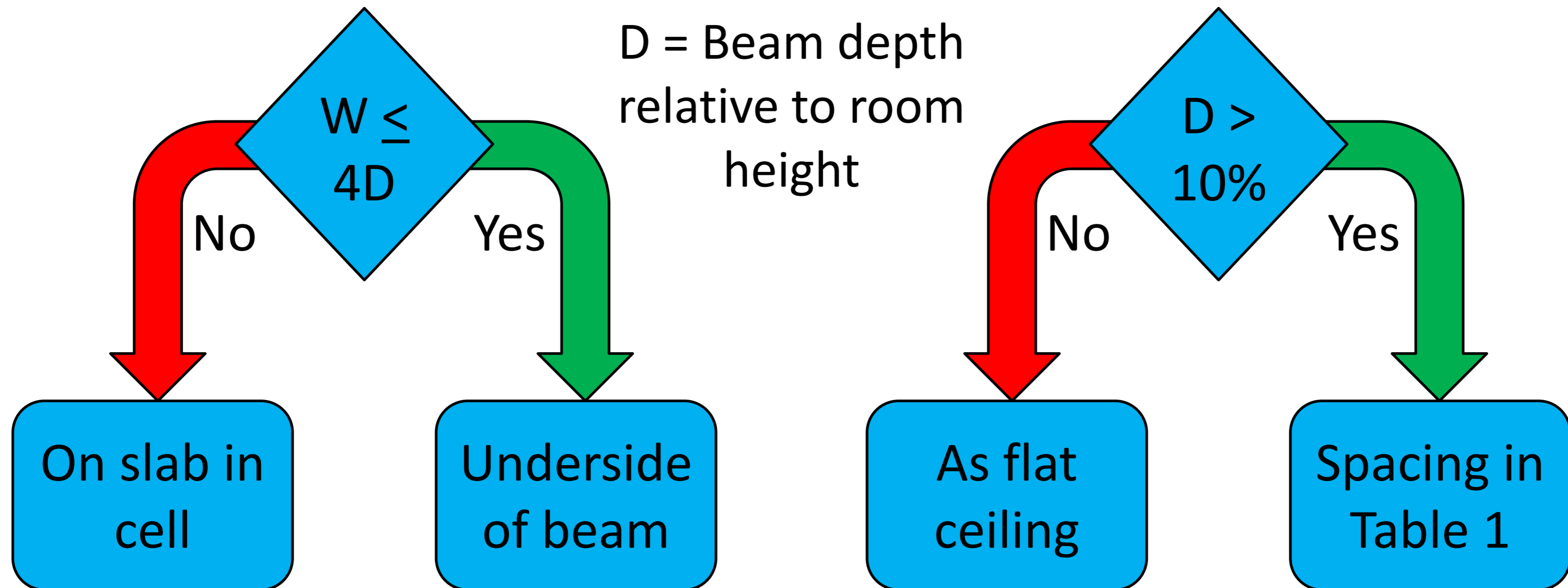
Fire Hazard	Example Fire	Ionization	Optical	CO	Heat	Flame	Optical - Heat	Optical - Heat - CO
White smoke	Smoulder electrical	**	*****	*	*	*	*****	*****
White smoke	Smoulder wood	***	*****	****	*	*	*****	*****
Dark smoke	Smoulder furnishing	**	****	*****	*	*	****	*****
Smoulder > flame	Waste paper bin	****	****	**	**	***	****	****
Flaming clean	Burning solvents	*	*	*	***	*****	***	****
Flaming dirty	Burning oils	**	***	**	***	*****	****	****

# Table E.3 Example Avoiding False Alarms

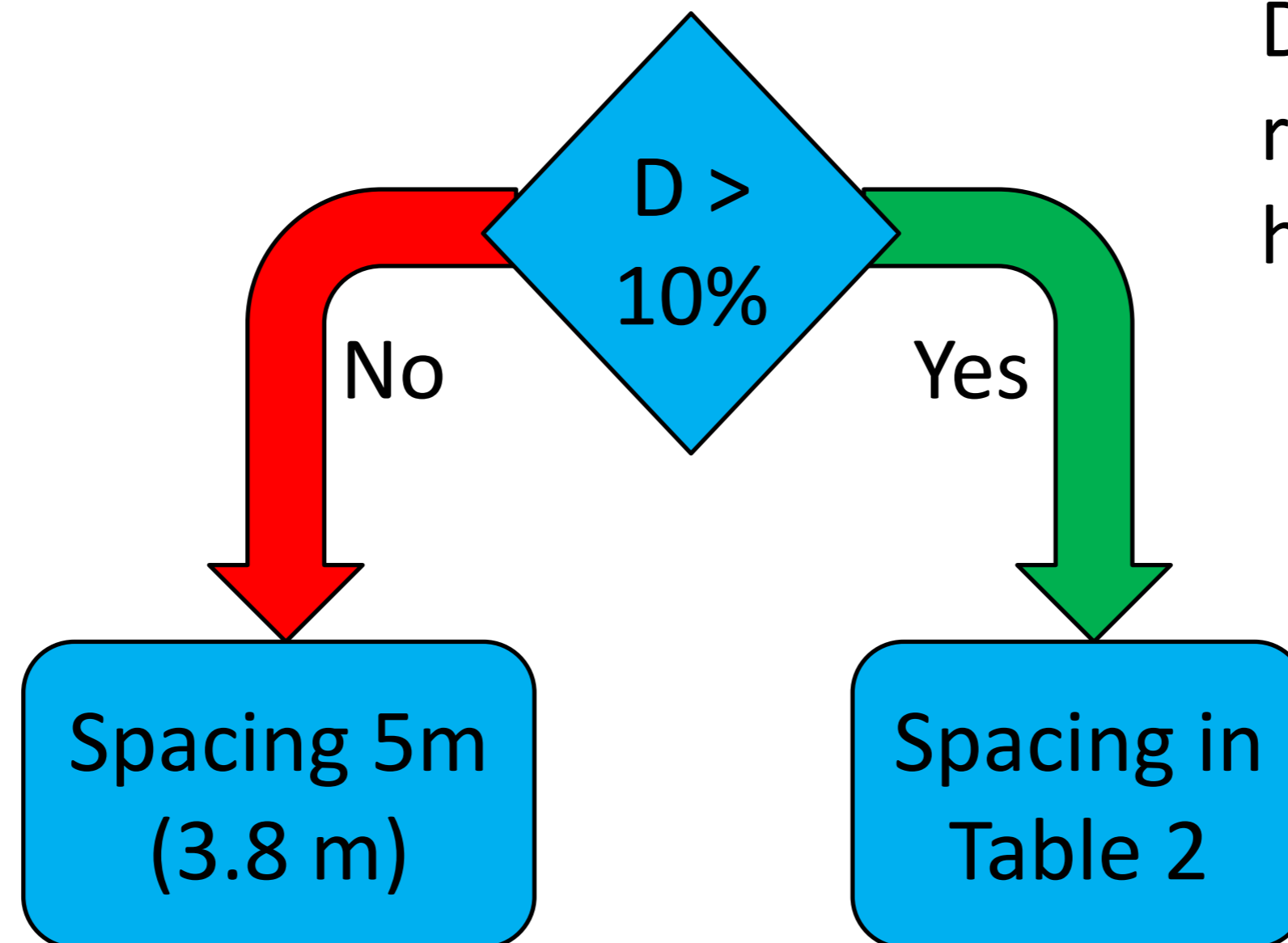
Phenomena	False alarm	Ionization	Optical	CO	Heat	Flame	Optical - Heat	Optical - Heat - CO
Steam	Shower	****	**	*****	*****	*****	***	***
Smoke	Kitchen	*	***	*****	*****	*****	***	*****
Dust	Warehouse	***	**	*****	*****	*****	***	***
Other	Aerosol	*	*	*****	*****	*****	***	*****
High air flow	Air Condition	**	*****	*****	*****	*****	*****	*****
Thermal change	Opening ovens	**	*****	*****	*	*****	****	****

# Detector spacing & siting on honeycomb ceilings

W = Width of cell  
D = Beam depth  
relative to room  
height



# Detector spacing & siting on ceiling with beams



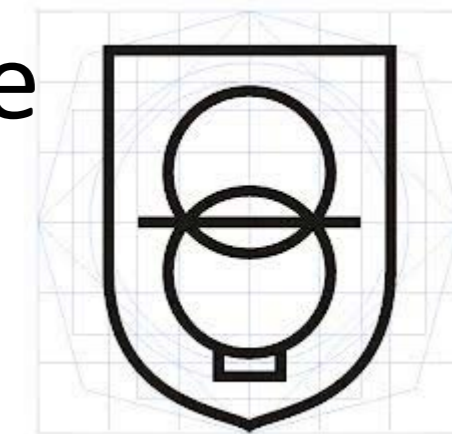
D = Beam depth  
relative to room  
height

# Ceiling Height

- Optical beam detectors used > 600 mm below ceiling  
Supplementary or physical & practical restraints
- Detection at the top of a lift shaft or flue-like structure –  
Recommendations for limits of ceiling height in 22.9 and  
Table 3 do not apply

# CIE & Electrical Safety

- BS 5839-6 recommends 72 h standby for Grade A
- Double pole isolation no longer recommended
- Recommendations for fire resistant cables clarified
- Electrical safety changed to electrical earthing – Most commentary and recommendation for TX marking deleted
- Reference to follow safe isolation as described in the Electricity at Work Regulations





# Limitation of False Alarms

- Annex E details procedure for selecting detector type
- Guidance to reduce Unwanted fire signals to F&RS
  - Staff alarms
  - Link day / night to security alarm
  - Deactivate connection to ARC during maintenance

# Documentation & Maintenance

- To include detector selection, application and configuration as determined by the designer
- Battery test sequence clarified
- Test method for multi-sensors clarified
- Testing cause and effect clarified

# **BS 5839-1 – What has Changed?**



**Thank you**

**Any questions?**